
Subject: Re: xmanager to call object methods?

Posted by [David Fanning](#) on Wed, 21 Apr 2004 13:31:44 GMT

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Oliver Thilmann writes:

- > is there any generic way to handle events via objects, i.e.
- > make xmanager (or something like it) call an object method
- > instead of a function or procedure?

In simple widget/object systems I often write a single `EVENT_DISPATCHER` procedure for the widget program. The purpose of this program is to input all widget events generated by the program and dispatch them to the appropriate object handler method. The "appropriate" method is determined by reading the user value of the widget generating the event. I have either stored an object reference there, or (more often) I have stored an object reference and the name of a particular object method to be called for that object. I use `CALL_METHOD` to pass the widget event information on to the object method.

This makes the `EVENT_DISPATCHER` easy to write, just a couple of lines, and it means I can write object handler methods in exactly the same way I previously wrote event handler procedures and functions. All I have to remember to do is fill out the user value of each widget in my program that is going to generate an event with the appropriate information.

This is basically what I do in more complex systems like my Catalyst Object Library, too. Although there, since every widget is itself an object, the process of assigning an event handler method, etc. is automated and completely transparent to the end user. Event handler methods (other than the default one) can be assigned by means of an `EVENT_HANDLER` keyword, in exactly the same way widgets use `EVENT_PRO` and `EVENT_FUNC`.

Even nicer, in this system, the `EVENT_DISPATCHER` has replaced the `ID`, `TOP`, and `HANDLER` widget identifier fields of the event structure with object references to the `ID`, `TOP`, and `HANDLER` objects. This means that once a widget event has been dispatched, I don't ever have to be concerned with widget identifiers. All interaction proceeds by means of consistent object calls. In some ways, this makes the system

easier to use than straight widget programming.

Cheers,

David

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David Fanning, Ph.D.

Fanning Software Consulting

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: xmanager to call object methods?

Posted by [mmiller3](#) on Wed, 21 Apr 2004 15:16:13 GMT

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>>>> > "Oliver" == Oliver Thilmann <justspam03@yahoo.de> writes:

> Hi, is there any generic way to handle events via objects,
> i.e. make xmanager (or something like it) call an object
> method instead of a function or procedure?

> The reason is that in my current design, I use the uvalue
> of evt.top to store a reference to the object currently
> handling UI input in the respective window and then call
> the event-handler of that object from an intermediate
> function. Alas, that's not possible in all cases. Without
> going into details: I ended up trying to pull myself out of
> the swamps by my own hair as Munchhausen did.

There is generic_class_event in the RSI user-contrib library
<http://www.rsinc.com/codebank/search.asp?FID=209> . (and I'll
stick a copy below...)

Mike

--

Michael A. Miller

mmiller3@iupui.edu

Imaging Sciences, Department of Radiology, IU School of Medicine

```
;+
; This routine is called when an event occurs in any object-based TLB.
; In turn, the ::EVENT method of the class whose object reference is
; stored in the EVENT.HANDLER's UVALUE is called.
;
;
; @Param
```

```
; Event {in}{required}{type=structure}
; Any sort of IDL GUI event
;
; @Examples
; <pre>
;   Widget_Control, TLB, Set_UValue = self, Event_Pro = 'Generic_Class_Event' <br>
; XMANAGER, 'GENERIC_CLASS', TLB
; </pre>
;
; @History
; June, 2001 : JLP, RSI
;-
Pro Generic_Class_Event, Event
COMPILE_OPT STRICTARR
Widget_Control, Event.Handler, Get_UValue = oSelf
If (N_elements(oSelf) eq 1) then Begin
  If (Obj_Valid(oSelf)) then Begin
    ;
    ; A class that uses this routine must have a method
    ; named "::EVENT".
    ;
    oSelf->Event, Event
  EndIf
EndIf
End
```

Subject: Re: xmanager to call object methods?
Posted by [justspam03](#) on Wed, 21 Apr 2004 20:13:07 GMT
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Hi David,

thanks for your long reply. Storing object reference and
method name in the widget's uvalue is a good idea - that
should help.

Thanks again
Oliver
